REMARKS

This Amendment responds to the Office Action dated June 29, 2005 in which the Examiner rejected claims 1-4, 9 and 10 under 35 U.S.C. §102(b) and rejected claims 5-8 and 11-14 under 35 U.S.C. §103.

As indicated above, claims 4 and 5 have been incorporated into claim 1 and claims 10 and 11 have been incorporated into claim 9. The amendment is unrelated to a statutory requirement for patentability.

Claims 1 and 9 claim a thin-film magnetic head comprising an inductive write head element, at least one thermal diffusion layer and a thin coating film. The thin coating film is formed on the at least one thermal diffusion layer. Only the thin coating film is formed on the at least one thermal diffusion layer. The thin coating film is made of a material selected from Ti, Cr, Ta, Ni, Fe, Co, Au, Pt, Rh and Ru, or an alloy containing at least Ti, Cr, Ta, Ni, Fe or Co.

Through the structure of the claimed invention having only the thin coating film formed on the at least one thermal diffusion layer, and the thin coating film being made of a material selected from Ti, Cr, Ta, Ni, Fe, Co, Au, Pt, Rh and Ru, or an alloy containing at least Ti, Cr, Ta, Ni, Fe or Co, as claimed in claims 1 and 9, the claimed invention provides a thin film magnetic head in which, when the thermal diffusion layer is formed to prevent thermal expansion toward the air bearing surface of the head and disconnection of the coil conductor itself due to heating of the coil conductor, not only the surface of the thermal diffusion layer can be protected but also sufficient heat-radiation effect can be expected. The prior art does not show, teach or suggest the invention as claimed in claims 1 and 9.

Claims 1-4, 9 and 10 were rejected under 35 U.S.C. §102(b) as being anticipated by *Koshikawa* (JP 03-162705). In addition, claims 5-8 and 11-14 were rejected under 35 U.S.C. §103 as being unpatentable over *Koshikawa* in view of *Williams et al.* (U.S. Patent No. 5,949,627).

Koshikawa appears to disclose a magnetic head is constituted by disposing the heat conductive layer 21 for heat radiation consisting of copper (Cu), etc., and having a good heat conductivity in the disposing region of the inorganic protective layer 17 consisting of Al_2O_3, etc. of the organic interlayer insulating layer 14 cladding a conductor coil layer 15 in such a manner that the one end face thereof is brought into direct contact with the organic interlayer insulating layer 14 and the other end part is exposed on the surface of the protective layer 17. The heat generated in the conductor coil layer 15 at the time of recording is, therefore, easily radiated to the outside of the head by the heat conductive layer 21 for heat radiation having the good heat conductivity via the organic interlayer insulating layer 14. The cracking, peeling, etc., of the inorganic protective layer 17 occurring in heat generation are prevented in this way.

Thus, *Koshikawa* merely discloses a heat conductive layer 21 consists of copper having a good heat conductivity disposed on an organic insulating film 14 cladding a conductor coil layer 15. Nothing in *Koshikawa* shows, teaches or suggests on the thermal diffusion layer, only a thin coating film made of a material selected from Ti, Cr, Ta, Ni, Fe, Co, Au, Pt, Rh and Ru, or an alloy containing at least Ti, Cr, Ta, Ni, Fe or Co is formed as claimed in Claim 1 and 9. Also, nothing in *Koshikawa* shows, teaches or suggests a thin coating film. In particular, in *Koshikawa* because the upper surface of the heat conductive layer 21 is exposed to

the atmosphere, erosion of the surface may easily occur. In order to prevent such corrosion from occurring, a metal layer or heat conductive layer is in general embedded in the protective layer 17. However, if embedded, sufficient heat-radiation cannot be expected. Nothing in *Koshikawa* shows, teaches or suggests only a thin coating film is formed on the thermal diffusion layer of the materials as claimed in claims 1 and 9.

Williams et al appears to disclose the structure of the magnetic yoke of a thin film head (col. 1, line 5-6). With reference to FIG. 1, a thin film head includes a ceramic substrate 1, which is made from a polished alumina or TiC material, upon which is first deposited by plating or vacuum deposition a soft metal layer 2. The soft metal layer 2 is preferably made of Sn, Pb, Sb or Al, but is not limited to such metals. A preferred thickness range for this first and subsequent soft metal layers is between 0.25 to 1.0 microns. A Permalloy layer 3 is next deposited, by conventional means. A second soft metal layer 4 is then deposited. Copper turns 5 encompassed by a cured or cross-linked photoresist 6 are next added by well known deposition techniques. A third soft metal layer 7 is then deposited, followed by the second Permalloy layer 8, and a final soft metal layer 9. An insulating overcoat 10 is deposited adjacent to the soft metal layer 9 (col. 2, lines 27-41).

Thus, *Williams et al* merely discloses a soft metal layer 9 deposited on a second permalloy layer 8 and an insulating overcoat layer 10 is formed on the soft metal layer 9. Thus nothing in *Williams et al* shows, teaches or suggests on the thermal diffusion layer, only a thin coating film made of a material selected from Ti, Cr, Ta, Ni, Fe, Co, Au, Pt, Rh and Ru, or an alloy containing at least Ti, Cr, Ta, Ni, Fe or Co is formed as claimed in claims 1 and 9. Rather, *Williams et al* teaches

away from the claimed invention since the soft metal layer 9 is not exposed since an insulating overcoat layer 10 is formed on the soft metal layer 9.

Since neither *Koshikawa* nor *Williams et al* shows, teaches or suggests on the thermal diffusion layer, only a thin coating film made of a material selected from Ti, Cr, Ta, Ni, Fe, Co, Au, Pt, Rh and Ru, or an alloy containing at least Ti, Cr, Ta, Ni, Fe or Co is formed, as claimed in claims 1 and 9, applicants respectfully request the Examiner withdraws the rejection to claims 1 and 9 under 35 U.S.C. §102(b) or in the alternative under 35 U.S.C. §103.

Claims 2-3, 6-8 and 12-14 depend from claims 1 and 9 and recite additional features. Applicants respectfully submit that claims 2-3, 6-8 and 12-14 would not have been anticipated by or obvious over *Koshikawa* and *Williams et al* at least for the reasons as set forth above. Therefore, applicants respectfully request the Examiner withdraws the rejection to claims 2-3, 6-8 and 12-14 under 35 U.S.C. §102(b) or 35 U.S.C. §103.

The prior art of record, which is not relied upon, is acknowledged. The references taken singularly or in combination do not anticipate or make obvious the claimed invention.

Thus it now appears that the application is in condition for reconsideration and allowance. Reconsideration and allowance at an early date are respectfully requested.

If for any reason the Examiner feels that the application is not now in condition for allowance, the Examiner is respectfully requested to contact, by telephone, the applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed within the currently set shortened statutory period, Applicants respectfully petition for an appropriate extension of time. The fees for such extension of time may be charged to our Deposit Account No. 02-4800.

In the event that any additional fees are due with this paper, please charge our Deposit Account No. 02-4800.

Respectfully submitted,

BUCHANAN INGERSOLL PC

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